

CLAIMS

What is claimed is:

1. In a portable computer system comprising a digital signal processor (DSP) and a main processor, a method for establishing a wireless connection between said portable computer system and a wireless network, said method comprising the steps of:
  - a) scanning a plurality of broadcast channels used by said wireless network, wherein said step of scanning is performed under direction of said DSP while said main processor is in a low power mode;
  - b) determining whether a broadcast channel is acceptable for said wireless connection, wherein said step of determining is executed by said DSP while said main processor remains in said low power mode;
  - c) waking up said main processor provided a broadcast channel acceptable for said wireless connection is identified; and
  - d) identifying to said main processor said broadcast channel acceptable for said wireless connection.
2. The method as recited in Claim 1 wherein step b) comprises the step of:
  - b1) comparing to a threshold a measure of signal strength of a signal received over said broadcast channel, wherein said threshold is for defining a signal strength acceptable for said wireless connection.

3. The method as recited in Claim 2 further comprising the steps of:  
identifying a number of broadcast channels acceptable for said wireless  
connection; and

sorting said number of broadcast channels according to their respective

5 measure of signal strength.

4. The method as recited in Claim 3 further comprising the steps of:

e) selecting from said number of broadcast channels a broadcast  
channel having the highest measure of signal strength; and

10 f) establishing said wireless connection using said broadcast channel  
selected in said step e), wherein said step of establishing is performed under  
direction of said main processor.

5. The method as recited in Claim 1 wherein said step a) further

15 comprises the step of:

a1) disregarding certain broadcast channels used by said wireless  
network.

6. The method as recited in Claim 1 wherein said wireless network is

20 a Mobitex wireless communication system.

7. The method as recited in Claim 1 wherein said step c) further  
comprises the step of:

c1) repeating said steps a) and b) at periodic time intervals until said  
25 broadcast channel acceptable for said wireless connection is identified.

8. The method as recited in Claim 1 wherein said step a) is automatically initiated when a previously established wireless connection between said portable computer system and said wireless network is lost.

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9. The method as recited in Claim 1 wherein said step a) is automatically initiated when said portable computer system is powered on and an acceptable broadcast channel for said wireless connection is not acquired.

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10. A portable computer system comprising:

a bus;

a wireless transceiver coupled to said bus;

a main processor coupled to said bus; and

a digital signal processor (DSP) coupled to said bus, said DSP for

15 executing a method for establishing a wireless connection between said portable computer system and a wireless network, said method comprising the steps of:

a) scanning a plurality of broadcast channels used by said wireless network, wherein said step of scanning is performed while said main processor

20 is in a low power mode;

b) determining whether a broadcast channel is acceptable for said wireless connection, wherein said step of determining is executed while said main processor remains in said low power mode;

c) waking up said main processor provided a broadcast channel

25 acceptable for said wireless connection is identified; and

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d) identifying to said main processor said broadcast channel acceptable for said wireless connection.

11. The portable computer system of Claim 10 wherein said step b) of  
5 said method comprises the step of:

b1) comparing to a threshold a measure of signal strength of a signal received over said broadcast channel, wherein said threshold is for defining a signal strength acceptable for said wireless connection.

10 12. The portable computer system of Claim 11 wherein said method further comprises the steps of:

identifying a number of broadcast channels acceptable for said wireless connection; and

15 sorting said number of broadcast channels according to their respective measure of signal strength.

13. The portable computer system of Claim 12 wherein a broadcast channel having the highest measure of signal strength is selected from said number of broadcast channels and used for said wireless connection.

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14. The portable computer system of Claim 10 wherein said step a) of said method further comprises the step of:

a1) disregarding certain broadcast channels used by said wireless network.

15. The portable computer system of Claim 10 wherein said wireless network is a Mobitex wireless communication system.

5 16. The portable computer system of Claim 10 wherein said step c) of said method further comprises the step of:

c1) repeating said steps a) and b) at periodic time intervals until said broadcast channel acceptable for said wireless connection is identified.

10 17. The portable computer system of Claim 10 wherein said step a) of said method is automatically initiated when a previously established wireless connection between said portable computer system and said wireless network is lost.

15 18. The portable computer system of Claim 10 wherein said step a) of said method is automatically initiated when said portable computer system is powered on and an acceptable broadcast channel for said wireless connection is not acquired.

20 19. In a portable computer system comprising a digital signal processor (DSP) and a main processor, a method for establishing a wireless connection between said portable computer system and a wireless network, said method comprising the steps of:

a) scanning a plurality of broadcast channels used by said wireless

25 network, wherein said step of scanning is performed under direction of said

DSP while said main processor is in a low power mode and wherein said step of scanning is automatically initiated in response to a triggering event;

- b) said DSP comparing to a threshold value a measure of signal strength of each signal received over said plurality of broadcast channels,
- 5 wherein said threshold is for defining a signal strength acceptable for said wireless connection;
- c) said DSP waking up said main processor provided a broadcast channel acceptable for said wireless connection is identified, and otherwise said DSP repeating said steps a) and b) until a broadcast channel acceptable for said wireless connection is identified; and
- 10 d) said DSP identifying to said main processor said broadcast channel acceptable for said wireless connection.

20. The method as recited in Claim 19 wherein said step b) comprises

15 the steps of:

- b1) said DSP identifying a number of broadcast channels acceptable for said wireless connection; and
- b2) said DSP ranking said number of broadcast channels according to their respective measure of signal strength.

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21. The method as recited in Claim 20 wherein said method further comprises the steps of:

- e) said main processor selecting from said number of broadcast channels a broadcast channel having the highest measure of signal strength;
- 25 and

f) said main processor establishing said wireless connection using said broadcast channel selected in said step e).

22. The method as recited in Claim 19 wherein certain broadcast  
5 channels used by said wireless network are disregarded.

23. The method as recited in Claim 19 wherein said wireless network  
is a Mobitex wireless communication system.

10 24. The method as recited in Claim 19 wherein said triggering event is  
loss of a previously established wireless connection between said portable  
computer system and said wireless network.

15 25. The method as recited in Claim 19 wherein said triggering event is  
lack of acquisition of a broadcast channel for said wireless connection when  
said portable computer system is powered on.